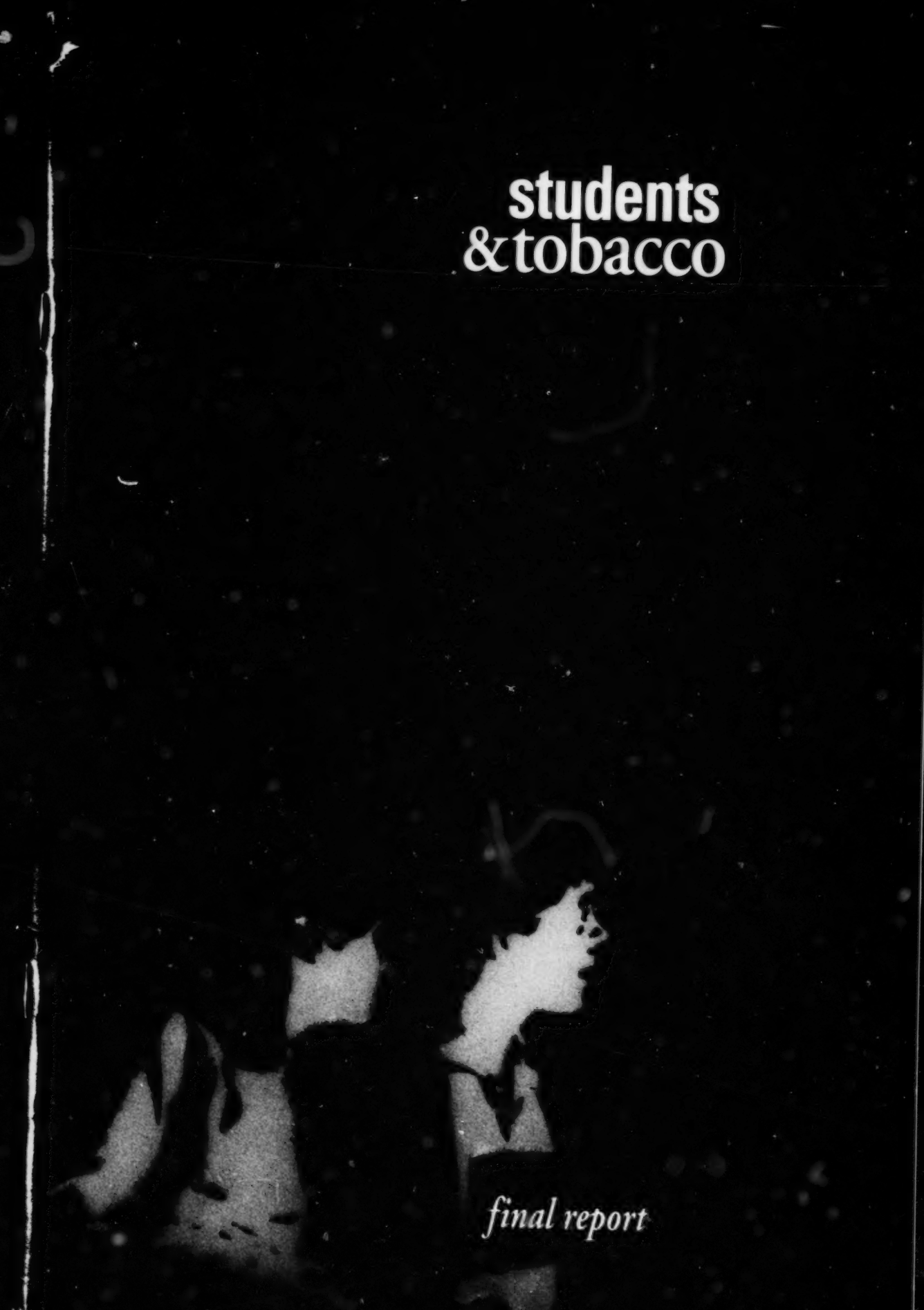
students &tobacco



final report

Acknowledgments

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Nova Scotia Council on Smoking and Health
Conseil sur le tabagisme et la santé de Nouvelle-Écosse

Nova Scotia
Department of Health and Fitness

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Executive Summary

The 'Sales to Minors' Committee of the Nova Scotia Council on Smoking and Health undertook a survey of students in grades 6, 8, 10 and 12 in April/May 1990. A total of 2771 students in the Nova Scotia public school system were surveyed. The objectives of the survey were:

1. To determine the level of knowledge about, and attitudes and behaviour(s) towards tobacco use.
2. To learn where and how children access tobacco products.
3. To identify strategies designed to prevent the use of tobacco products by minors.

Major findings of the survey were:

- 15% of the sample used tobacco regularly (at least 1 cigarette /day) (same for males and females);
- the percentage of regular users increased with age, until about age 15, when it levelled off;
- the average age of first trying tobacco was 11;
- male smokers smoked on average 60 cigarettes per week;
- female smokers smoked on average 45 cigarettes per week;
- most (85%) respondents recognized that tobacco use was unhealthy;
- when prompted, students knew that smoking was a risk factor in lung cancer (91%) and heart disease (80%);
- the sample were not as knowledgeable about the effects of second hand smoke as they were about risks to smokers;
- students started using tobacco because of friends' influence (65%) and curiosity (23%);
- current tobacco users under 16 years of age, obtained tobacco from their friends (73%) and corner stores (69%);
- half of the grade 6 current tobacco users usually purchased the 'Kiddie Packs' (15 cigarettes/pack size);
- those who had ever used tobacco felt that they would have been less likely to have started using tobacco products if they were made less accessible (36%), more expensive (18%), if the students had more knowledge of the risks (19%), and if their friends influenced them not to smoke (24%);
- ever users felt the following would influence them to quit using tobacco: made less accessible (13%), increased price (27%), increased knowledge of risks (16%), friends' influence (23%) and doctor's advice (19%).

Most of the recommendations relate to measures to control the access of minors to tobacco products and paraphernalia. The committee feels that the best way to prevent the sale of tobacco products to minors is through effective legislation which is enforceable and manageable. There is a need for increased awareness by students and the general public on the subject of the use of tobacco by minors. Both legislative action and education of the public are necessary to impact on the current and future use of tobacco by students in Nova Scotia.

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Appendices are not included in this report, but are available upon request. Please write to:

Nova Scotia Council on Smoking and Health
P.O. Box 841, Central Station
Halifax, Nova Scotia
B3J 2V2

1. Introduction

Purpose

The Sales to Minors Committee of the Nova Scotia Council on Smoking and Health (NSCSH) undertook a survey of students in grades 6, 8, 10 and 12 in April/May of 1990. The survey will help to determine ways to prevent the use of tobacco products by minors in Nova Scotia. The objectives of the survey were:

1. To determine the level of knowledge about, and attitudes and behaviour(s) towards tobacco use by Nova Scotia youth in grades 6, 8, 10 and 12.
2. To learn where and how children in Nova Scotia access tobacco products.
3. To identify strategies designed to prevent the use of tobacco products by minors.

Background

Smoking is the leading cause of preventable disease, disability and death in Canada. Tobacco use is the cause of 35,000 deaths in Canada annually [1]. Tobacco is a major risk factor in a number of diseases including lung cancer, cardiovascular diseases, chronic lung disease and others. Second hand smoke is a risk factor for lung cancer, cardiovascular disease and respiratory illness in non-smokers [2].

Most adults begin smoking as teenagers [3]. In fact most (80-90%) tobacco users try tobacco products prior to 16 years of age, even though it is illegal for them to purchase or possess tobacco (Tobacco Restraint Act of 1908) [4].

The nicotine in tobacco is addicting. "Addiction almost always starts in teenage years" [5]. Therefore, the issue of preventing initial tobacco use has established itself as a natural priority for tobacco reduction activists.

Although there have been numerous studies on the issue of children and tobacco, it was very difficult to find data specific to Nova Scotia which: included all areas of the province; addressed issues of accessibility of tobacco products; and included the age groups 12-18 years. Two surveys on tobacco use by youth in Nova Scotia were undertaken in 1986:

1. The Labour Force Survey of Canadian adults' (aged 15 and over) smoking behaviour [6].
2. The Nova Scotia Commission on Drug Dependency drug use survey of youth in Halifax and Pictou counties [7, 8]. In this survey tobacco was only one of many issues.

These surveys either did not cover all age groups or all regions within the province.

As a result of this analysis, it was decided to address the issue of children and tobacco. A survey of current knowledge, attitudes and behaviours was undertaken in order to collect baseline data.

2. Conclusions

Students start and continue to use tobacco for various reasons. Factors involved in the decision to start or to continue using tobacco include: friends' influence, curiosity, availability (in terms of ease of access, package size and price), knowledge of risks, and mimicking role models.

Some of these factors can be controlled through legislation and others by providing information and resources to students and the general public. Both legislative action and education of the public are necessary to impact on the current and future use of tobacco by students in Nova Scotia.

3. Recommendations

Based on the data collected from the school survey the following recommendations are made:

1. **Provincial legislation concerned with the sale and use of tobacco be developed and enforced.**

   The provincial legislation would include the following:

   A. **Raising the legal age to purchase or possess tobacco products and paraphernalia to 19 years of age. Identification similar to that required for the purchase of alcohol should be mandatory.**

   B. **Making it illegal for minors to possess tobacco products or paraphernalia whether for her/his own use or not.**

   C. **A graduated schedule of fines for possession of tobacco products or paraphernalia by minors.**

   D. **Licensing of all retail tobacco outlets, with defined eligibility criteria for obtaining a license.**

   E. **A graduated schedule of penalties (fines and loss of license) for any selling or giving of tobacco products or paraphernalia to minors.**

   F. **A total ban on vending machines which sell tobacco.**

   G. **Prohibiting the sale of cigarette packages with fewer than 20 cigarettes.**

   H. **Making it illegal for establishments which are licensed as pharmacies to sell tobacco.**

   I. **The levying of annual substantial increases in taxes, no less than cost of living increases, on tobacco products.**

   J. **Prohibiting the use or possession of tobacco products or paraphernalia on school property (buildings and grounds).**

   K. **A graduated schedule of penalties for non-compliance with the banning of tobacco products or paraphernalia on school property.**

   L. **A requirement that education about the effects of tobacco use on health be a compulsory component of the elementary school health education curriculum, beginning with the primary grades.**

As well as provincial legislation the Committee recommends:

2. **The Tobacco Restraint Act of 1908 be enforced until it can be replaced by comprehensive and enforceable legislation outlining national standards.**

3. **The Nova Scotia Council on Smoking and Health investigate the role that peer education may play in preventing the use of tobacco by minors.**

4. **The Nova Scotia Commission on Drug Dependency offer programs, materials and/or resources to students/teenagers who need help to quit using tobacco.**

5. **Resources on healthy modification of lifestyle be made available to teenagers through the Commission on Drug Dependency and other sources.**

6. **Physicians and other health professionals play an active role in a) education about the effects of using tobacco, b) tobacco use prevention, and c) cessation.**

7. **Awareness and information campaigns be undertaken to inform the public of the facts, and what the public can do to prevent tobacco use.**

8. **A mechanism be put into place to monitor compliance with all relevant legislation.**

9. **The Nova Scotia Council on Smoking and Health repeat this survey in five years using the same survey methodology.**

4. Methodology

4.1 Survey Questionnaire

The survey questionnaire was designed in order to learn as much as possible about the knowledge, attitude and behaviours of youth in Nova Scotia with regard to tobacco use. Several areas of interest were discussed in the planning of the survey questionnaire. Realizing that it would be impossible to prepare a questionnaire which would answer all questions yet be manageable for data collection and analysis, the questionnaire was limited to questions focusing on 5 issues:

1. the prevalence of tobacco use among Nova Scotia students;
2. knowledge about the effects of tobacco use;
3. reasons for initial tobacco use;
4. accessibility of tobacco products; and
5. prevention strategies.

Prevalence of Tobacco Use

The main areas covered in this section include: who uses tobacco, age first tried and amount smoked.

Knowledge of Health Risks

Tobacco is a known or suspected contributor in no fewer than 22 diseases [9]. Tobacco use contributes to:

- more than 30% of all cancers, 80% of lung cancer;
- more than 80% of chronic obstructive lung disease;
- 30% of all heart disease deaths;
- the incidence of preterm babies and low birthweight babies, which are higher among pregnant women who smoke [1].

Reasons for Initial Use

> *"When a child starts smoking, the reason lies in the social and psychological reasons rather than in the biological factors. But after some time of regular tobacco use, a child will notice how difficult it is for him or her to do without tobacco."* [10]

Many factors have been found which influence children to initially use tobacco products. These include peer pressure, parental and sibling influence, curiosity, availability, and advertising by tobacco companies [11, 12].

In order to understand how we can affect the incidence of use by children, it is necessary to understand what motivates them to use tobacco.

Accessibility of Tobacco

Although Federal legislation exists (The Tobacco Restraint Act, 1908) [4] which makes the selling or giving of tobacco products to children under the age of 16 years illegal, it is apparent that tobacco is in fact being sold to children. In 1986, Canadians between 12 and 17 years of age consumed over 220 million dollars worth of cigarettes. This works out to approximately 5 million cigarettes per day [13].

Surveys in Canada show that between 75-100% of stores will sell tobacco to children under 16 years of age, some as young as 11 years [4]. This is not just a problem in Canada, the same problem occurs in the United States and in England and Wales [14, 15, 16, 17].

Currently only four provinces have enacted legislation restricting the sale of tobacco products to children. The provinces are Saskatchewan, Ontario, Newfoundland and New Brunswick [1].

It is obvious that existing legislation is ineffective. It does not provide the economic incentives or deterrence for retailers or youth to obey the law.

Prevention Strategies

One of the main objectives in conducting the survey was to learn how to prevent children from starting to use tobacco products. Therefore, factors which influenced students to start using tobacco and those that the students felt would have prevented them from starting to use tobacco were examined.

Many strategies have been identified which may prevent children from starting to use tobacco. These include the following:

- education programs within the school system (knowledge of effects, information about peer pressure and parental influence) [18, 19];
- legislation on tobacco products (accessibility, tax increases, addiction and disease warnings) [20]; and
- the establishment of smoke free environments [20, 12].

Summary

The survey questionnaire was designed to provide information in each of the above five areas. Students were asked a total of 26 multiple-choice questions about their knowledge and use of tobacco products. Many of the questions contained several parts, and several gave students an opportunity to write in additional responses.

Questionnaires were sent to members of the NSCSH and other interested individuals to obtain input into survey design. A copy of the finalized survey is available in Appendix A.

4.2 Pretesting

In December of 1990 the questionnaire was pretested on 35 students, 5 students from each of grades 6 through 12. Two schools participated in the pretesting. One school covered grades 6-9, the other grades 10-12. Students were randomly selected from each grade.

The questionnaire took from 10 to 18 minutes to complete. Overall the survey questionnaire was appropriate for the intended students. There was some concern over the use of the word 'sibling' in the younger grades.

It was found to be difficult to schedule the survey when all selected students were present. The methodology strategy was changed as a result of the pretesting. It was decided to select classrooms as opposed to specific students.

4.3 Sample Size and Selection

The province was divided into five regions using the Nova Scotia Commission on Drug Dependency model: Metro-Lunenburg, Cape Breton, North Shore, Valley and Western. See Appendix B for details on the counties included in each region.

Four grades were included in the survey: grades 6, 8, 10 and 12. If was felt that if all grades 6 through 12 were surveyed the sample size would increase substantially without providing any more useful information.

The committee decided to make comparisons between regions in the province, between gender, and between grades. To determine the smoking prevalence rate within a +/-4% error [1], with 95% confidence, for each region or each grade a minimum of 500 students per grade per region was required. Assuming 20 students per classroom a total of 7 classes per grade per region was required. This resulted in 560 (20 • 7 • 4) students/region and 700 (20 • 7 • 5) students/grade. The total sample size was calculated to be 2800 (20 • 7 • 4 • 5) students.

Classrooms and schools were randomly selected from each region and for each grade. Each school could be selected more than once. Once information was obtained on the number of classrooms in each grade, classrooms for each of the schools and grades were randomly selected from a hat.

1. *For example, if there is a 50% prevalence rate for the sample then the actual rate for the target population would be 46-54%.*

4.4 Administration of the Survey

Permission was obtained from the Nova Scotia Department of Education to conduct the survey in the public school system.

Superintendents of the school boards were contacted to obtain permission to conduct the surveys in their schools, to provide contact names and telephone numbers. Contact people provided information on classroom size.

A total of 3470 questionnaires were mailed to 139 classrooms on April 6th, 1990 [2]. Contact people supervised the self-administration of the questionnaire. Completed questionnaires were to be returned to the NSCSH by April 20th, 1990. Those schools whose surveys were not received by the first week of May were followed up by telephone.

2. *Note that classrooms were assumed to have 20 students on average. After obtaining information from the contact people it was found that the average was 25, thus increasing the expected sample size.*

4.5 Coding and Data Entry

Prior to entering the data on the computer the responses to the questionnaires were coded using a coding manual. Respondent numbers were added to each completed questionnaire.

Data were put in computer file form using a dBASE III Plus program. Coding and data entry took approximately 120 hours each to complete.

4.6 Data Quality

The time allocated for coding and data entry also allowed for time to run data quality checks.

A random sample of surveys was checked for errors in coding and data entry. Also error checks were run to verify that variables were within the specified range of values. Detected errors were corrected.

4.7 Study Limitations

The actual prevalence of tobacco use in the target population may be different than the sample because of the following study limitations:

1. Drop-outs, truant students, institutionalized students (hospitals and correctional centres), students in private schools and Native students educated outside the provincial public school system were excluded from the study. The prevalence of tobacco use among these adolescents was not addressed by this study.
2. Information was not collected on those students and classrooms which failed to complete the survey. Non-responders could include:
   a) Absentees from school. If students who use tobacco were the ones who were absent from school when the survey was administered, the prevalence rate would have been underestimated;
   b) Difficulty in scheduling of the survey to include all students; and
   c) Refusal to participate by individual students or teachers. If individuals refused because they used tobacco, the overall prevalence rate would have been underestimated.
3. Students may not have been truthful when answering the questions.
4. Students had to rely on memory to answer several questions which may not have been accurate.
5. Reasons for having done things may not have been conscious and therefore not reported on the survey.
6. Students were prompted with specific responses as opposed to open ended questions.

5. Data Analysis

Data were put into computer file form using a DBASE III Plus program, and then converted to an ASCII text file before being transferred to the Government's mainframe computer for analysis using SAS.

5.1 Response Rate

A total of 3470 surveys were sent to 139 classrooms in grades 6, 8, 10 and 12 in the public school system. A total of 2771 surveys were returned for an 80% response rate. A total of 126 classrooms (91%) returned their surveys.

If more classrooms completed the survey than required, only the original number required were included in the final analysis.

5.2 Demographics of the Sample

The distribution of the sample size between the grades and the regions were quite close. This confirms that the sample was selected using stratified cluster sampling where the clusters were grades and regions (Table I, Appendix C).

The percentage of students sampled in the Halifax-Lunenburg region was close to the other 4 regions. However, since the number of students in Halifax-Lunenburg was higher (Table II, Appendix C), students surveyed in Halifax-Lunenburg represented more students than those surveyed in the Western region. Data were weighted to reflect this (see section 5.3 for details on the weighting formula). Sample weights for the Halifax-Lunenburg region were higher than those for the Western region (Table III, Appendix C).

Students in grade 6 were 12 years of age on average. In grade 8 the average was 14, in grade 10 it was 16, and in grade 12 it was 18 (Table IV, Appendix C).

5.3 Sampling Weights

"The sample weight for a unit corresponds to the inverse of the probability of selection of the unit in the sample" [21].

The probability of selection for the NSCSH school survey was equal to the sample size for each region and grade divided by the public school population in each region and grade. Therefore, the responses to the survey were weighted using the following formula:

WEIGHTgr = POPgr/SAMgr

Where POPgr is the public school population for each grade (g) and region (r), SAMgr is the sample size for each grade and region, and WEIGHTgr is the sample weight for each grade and region. See Table III in Appendix C for the sampling weights.

This weighting technique accounts for the different sizes of population in each region. The data analysis below is based upon weighted data.

5.4 Prevalence of Tobacco Use

5.4.1 Pattern of Tobacco Use

Half of the sample had tried tobacco at least once *(Table 1)*. The majority (96%) of those who had tried tobacco had tried cigarettes.

Table 1

Percentage Ever Trying Tobacco by type of tobacco

Type	Percent
Any Type	50%
By Type of Tobacco:	
Cigarettes	48%
Cigars	15%
Snuff	2%
Chewing Tobacco	8%
Pipe	6%
Sample Size	2771

Responses to the survey showed that *(Table 2)*:

- 15% of the sample were regular users of tobacco, i.e. smoked at least one cigarette per day;
- 4% were occasional users, i.e. smoked less than 7 cigarettes per week;
- 32% were former users, i.e. tried tobacco at least once but did not use tobacco at the time the survey was administered; and
- 48% had never used or tried tobacco products.

Table 2

Tobacco Use Status

Frequency	Percent	95% Confidence Interval
Never	48%	46-50%
Former*	32%	31-33%
Occasional**	4%	< +/- .5%
Regular +	15%	14-16%
Sample Size	2771	

* *Previously tried tobacco but did not use at the time of the survey.*

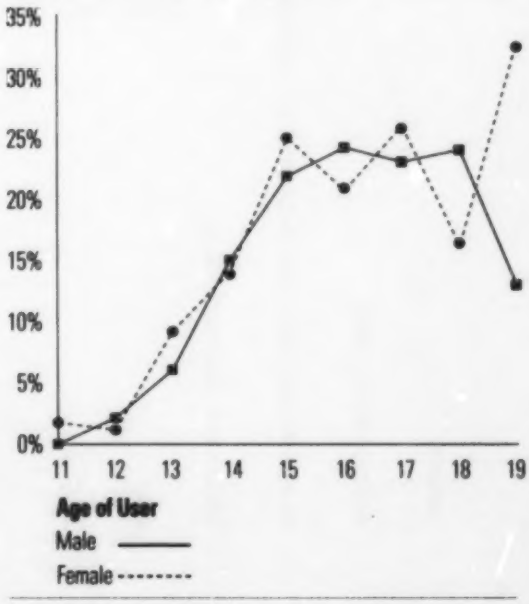
** *Smoked less than 7 cigarettes per week.*

\+ *Smoked at least one cigarette per day (7 cigarettes per week).*

The percentage of the sample who were regular users increased with age until about age 15 *(Figure 1)*. The percentage of male and female regular tobacco users were quite similar (except for the 19 year olds). For the overall sample there was no difference between the male and female percentage of regular tobacco users (both 15%).

Figure 1

Regular Tobacco Users by Age and Sex



Regional Differences

More students surveyed in the North Shore region (19%), compared to the Western region (12%), were regular tobacco users (p<.003) *(Table 3)*.

Table 3

Percent of Regular Users by Region

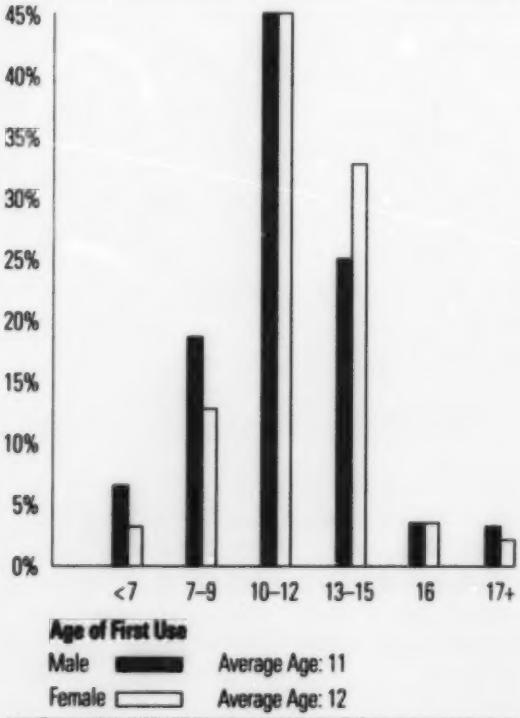
Region	Percent	Sample Size
Metro-Lunenburg	15%	548
Cape Breton	14%	649
North Shore	19%	646
Valley	15%	455
Western	12%	473

5.4.2 Age First Tried

Males were 11 years of age and females 12 when they first tried tobacco *(Figure 2)*. The majority (95%) of students who ever used tobacco first tried using tobacco before they were 16 years of age.

Figure 2

Age of First Tobacco Use, by Sex



5.4.3 Amount Smoked

Male users smoked an average of 60 cigarettes per week, and female users 45 cigarettes per week *(Table 4)*. More females were classified as occasional and light smokers, while more males were classified as medium and heavy smokers.

Table 4

Cigarettes Smoked per Week, by Sex, Current Users

Amount/Week	Males	Females
Occasional (1 – 6)	16%	18%
Light (7 – 35)	24%	34%
Medium (36 – 140)	47%	36%
Heavy (141+)	13%	11%
Average/Week	60	45
Sample Size	246	233

Smokers in the Metro-Lunenburg region smoked the most cigarettes per week (61/week) *(Table 5)*. The lowest amount smoked was in the Valley region (37/week).

Table 5

Cigarettes Smoked per Week, by Region, Current Users

Region	Average/Week	Sample Size
Metro-Lunenburg	61	100
Cape Breton	57	102
North Shore	55	130
Valley	37	78
Western	47	69

Regular smokers smoked an average of 53 cigarettes per week *(Table 6)*. Current users in grade 6 smoked 12 cigarettes per week. The amount smoked increased with grades 8 and 10 and decreased from grade 10 to 12.

Table 6

Cigarettes Smoked per Week, by Grade, Current Users

Grade	Sample Size	Average/Week
Grade 6	27	12
Grade 8	140	40
Grade 10	194	70
Grade 12	118	47

5.4.4 Smoking in School

In one-third of the school board districts at least 50% of the students surveyed stated that smoking was allowed in their school *(Table 7)*. Almost all (92%) of the students surveyed in the Digby School Board District said smoking was allowed in their schools.

Table 7

Answers to "Is Smoking Allowed in your School?", by School Board

Region	Sample Size	Percent Yes	95% Confidence Interval
Digby	95	92%	89 – 95%
Kings	179	87%	84 – 90%
Colchester	97	78%	74 – 82%
Annapolis	227	71%	68 – 74%
Conseil Scolaire	137	70%	66 – 74%
Cumberland	149	63%	59 – 67%
Pictou	271	50%	47 – 53%
Yarmouth	84	30%	25 – 35%
Hants West	41	24%	17 – 31%
Lunenburg	122	13%	10 – 16%
Northside - Victoria	57	12%	8 – 16%
Shelburne	112	9%	6 – 12%
Dartmouth	42	7%	3 – 11%
Halifax	114	7%	5 – 9%
Halifax County	259	5%	4 – 6%
Inverness	143	3%	2 – 4%
Guysborough	120	3%	1 – 5%
Cape Breton	319	2%	1 – 3%
Richmond	116	1%	0 – 2%
Queens	30	0%	0 – 0%

NOTE: When schools were randomly selected by region there were no schools selected from the Antigonish School Board District.

5.4.5 Smoke Free Public Places

Smoking restrictions in public places (hospitals, elevators, schools, etc.) were popular with students surveyed *(Table 8)*. Responses were higher for never users compared to regular users. Smoking restrictions were more popular with grade 6 students surveyed than with the other grades.

Table 8

"Which Areas Should be Smoke Free?", by Type of User and Grade

Area	Never Users	Regular Users	6	8	10	12
Schools	72%	35%	70%	59%	54%	57%
Restaurants	63%	25%	57%	53%	53%	47%
Hospitals	78%	75%	76%	75%	76%	70%
Elevators	73%	73%	67%	69%	71%	70%
All Public Places	58%	10%	53%	39%	39%	44%
Sample Size	1,314	396	737	677	761	596

5.5 Knowledge About the Effects of Smoking

5.5.1 Good Things About Smoking

Most (80%) of the sample believed that there was nothing good about smoking (Table VII, Appendix D). Of regular tobacco users, 55% of males and 62% of females believed that there was nothing good about smoking *(Table 9)*.

Table 9

Good Things about Smoking – Regular Users by Sex

Good Things	Males	Females
Popular *	11%	9%
Taste	27%	16%
Feel Older	5%	3%
Keeps Slim	8%	13%
Keeps Calm	15%	16%
Nothing	55%	62%
Sample Size	205	191

* *Includes: makes you popular and helps you fit in*

More male (27%), than female (16%), regular users suggested that taste was a good thing about smoking (p<.003) *(Table 9)*. "Keeps me calm" was the second most popular response, even though it was not one of the offered choices. This response was volunteered by 15% of males and 16% of females.

5.5.2 Bad Things About Smoking

Smoking was identified as unhealthy by 85% of all students (Table VIII, Appendix D). More female (83%), than male (74%), regular users believed that smoking was unhealthy (p<.003) *(Table 10)*. On the other hand, more male (70%), than female (54%), regular users suggested that smoking reduced athletic ability (p<.003).

Table 10

Bad Things about Smoking – Regular Users by Sex

Bad Things	Males	Females
Unhealthy	74%	83%
Taste	16%	29%
Reduces Athletic Ability	70%	54%
Smelly	53%	64%
Nothing	6%	0%
Sample Size	205	191

5.5.3 Feelings About Smoking

Two-thirds (65%) of regular users surveyed felt addicted to tobacco *(Table 11)*. Half of the regular tobacco users wished they could quit: 55% of males and 49% of females. Very few indicated positive feelings (popular/excited) about smoking, and of these more males than females indicated positive feelings.

There was a difference between grades in how tobacco users felt about using tobacco. Among the grade 6 students, the responses, "Guilty" and, "Popular", were more frequently chosen than among the older students *(Table 11)*. However, fewer grade 6 students felt unhealthy, addicted and/or wishing to quit.

Table 11

Feelings about Smoking – Current Regular Users, by Sex and Grade

Feelings	Males	Females	6	8	10	12
Unhealthy	34%	35%	19%	33%	39%	37%
Addicted	65%	65%	35%	63%	60%	50%
Guilty	18%	20%	35%	26%	21%	17%
Wishing to Quit	55%	49%	13%	50%	45%	52%
Popular	18%	8%	48%	22%	12%	10%
Excited	12%	3%	12%	12%	8%	6%
Sample Size	205	191	37	150	203	123

5.5.4 Knowledge About the Effects on Smoker's Health

A large majority of the students were aware that smoking was a risk factor in lung cancer (91%) and heart disease (80%) *(Table 12)*. Fewer were aware that smoking caused emphysema (73%) and heartburn (59%). Regular users tended to know at least as much as never smokers about the effects of smoking on health (Table X, Appendix D).

Table 12

Knowledge about the Effects on Smoker's Health, by Grade

Effect	Total	Grade 6	Grade 12
Lung			
Coughing	88%	82%	91%
Emphysema	73%	66%	79%
Lung Cancer	91%	90%	92%
Wheezing	77%	67%	85%
Other			
Mouth Cancer	74%	63%	82%
Heart Disease	80%	77%	85%
Poor Circulation	71%	63%	81%
Heartburn	59%	53%	66%
Stomach Ulcers	62%	55%	69%
Reduces Athletic Ability	81%	68%	88%
Sample Size	2,771	737	596

More grade 12, than grade 6, students surveyed were aware about the effects of smoking on the smoker's health *(Table 12)*.

A Canadian Gallup Poll done in February of 1985 found that adolescents' knowledge about the risks of smoking was poor [8]. In that survey adolescents were not prompted with specific diseases.

5.5.5 Knowledge About the Effects of Second Hand Smoke

Students did not appear to be as aware of the effects of second hand smoke as they were about the effects on a smoker's health. More students were aware that coughing (77%) was an effect of second hand smoke than either carbon monoxide poisoning (44%) or heart disease (44%) *(Table 13)*. Regular users were just as aware as the overall sample about the effects of second hand smoke (Table XI, Appendix D). More grade 12 than grade 6 students surveyed were aware of the effects of second hand smoke.

Table 13

Knowledge about the Effects of Second Hand Smoke, by Grade

Effect	Total	Grade 6	Grade 12
Lung Cancer	66%	54%	77%
Wheezing	55%	47%	64%
Coughing	77%	76%	78%
Allergies	56%	50%	64%
Carbon Monoxide Poisoning	44%	47%	42%
Heart Disease	44%	37%	53%
Irritated Eyes	25%	19%	28%
Sample Size	2,771	737	596

5.5.6 Sources of Information About the Effects of Smoking on Health

Almost half (45%) of the students surveyed indicated that their parents should be responsible for teaching them about the effects of smoking on health *(Table 14)*. This was followed by the Department of Health and Fitness (32%), teachers (29%), family doctors (23%) and health nurses (14%). The responses for regular users differed in that significantly more (34%) of them thought that the family doctor should teach them ($p<.003$) (Table XII, Appendix D).

Table 14

Who Should Teach about Effects of Smoking on Health, by Grade

Who should teach	Total	Grade 6	Grade 12
Health Nurse	14%	13%	14%
Family Doctor	23%	20%	25%
DOHF	32%	30%	38%
Teacher	29%	26%	29%
Parents	45%	54%	41%
Sample Size	2,771	737	596

More grade 6 (54%), than grade 12 (41%), students surveyed thought that their parents should teach them about the effects of smoking on health ($p<.003$) *(Table 14)*.

5.6 Why Students Start Using Tobacco

5.6.1 Reasons for Not Using Tobacco

The most cited reason for not using tobacco was the effects of tobacco use on health. This was cited as a reason by 62% of the current non-users (never plus former users) *(Table 15)*. The next most cited reason was that non-users did not like tobacco (39%).

Table 15

Reasons for Not Using Tobacco, by Grade

Reasons	Total	6	8	10	12
Effects on Health	62%	74%	63%	54%	54%
Friends Don't	7%	7%	12%	7%	4%
Parents Don't	6%	5%	7%	7%	4%
Don't Like	39%	32%	38%	45%	44%
Sample Size	2258	700	527	558	473

Significantly more grade 6 (74%) than grade 10 or 12 (54%) students surveyed said that they did not use tobacco because of the effects on health ($p<.003$) *(Table 15)*. However, more grade 10 and 12 (45%) compared to grade 6 (32%) students surveyed said that they did not use tobacco simply because they did not like it.

5.6.2 Reasons for Starting to Use Tobacco

Two-thirds (65%) of those students who had ever used tobacco products identified friends' influence as a reason for starting *(Table 16)*. The second most cited reason was experimentation (23%). Analyzing regular users separately, more of them indicated parental use as a reason, 20% versus 13% for all ever users.

Table 16

Reasons for Starting to Use Tobacco, Ever Users

Reasons	Ever Used	Regular Users
Friends' Influence	65%	69%
Parents Use	13%	20%
Experimentation	23%	16%
Advertising	4%	4%
Sample Size	1352	396

5.7 Accessibility

5.7.1 Sources of Tobacco

Most current users under 16 years of age obtained their tobacco from friends (73%) and/or corner stores (69%) *(Table 17)*. The percentage obtaining tobacco from corner stores and drug stores increased with the 16+ age group.

Table 17

Sources of Tobacco – Current Users, by Age

Sources	Age 11 – 15	Age 16+
Friends	73%	58%
Corner Store	69%	86%
Parents/Guardians	25%	31%
Drug Store	20%	34%
Siblings	17%	13%
Vending Machine	7%	13%
Sample Size	219	298

5.7.2 Package Size Purchased

Half (49%) of grade 6 current tobacco users usually purchased the 15 per pack cigarette package ('Kiddie Packs') *(Table 18)*. The older age groups usually purchased the 25 per pack size (69% of grade 12 students). Packages of twenty were distinctly unpopular among the surveyed population.

Table 18

Size of Pack Purchased – Current Users, Gr. 6 vs. Gr. 12

Pack Size	Grade 6	Grade 12
15 cigs/pack	49%	20%
20/pack	4%	4%
25/pack	21%	69%
1 or 2 at a time	3%	11%
Roll Own	18%	15%
Sample Size	37	123

5.7.3 Refusal of Tobacco Sales

Less than half of grade 6 (36%) and grade 8 (38%) students surveyed who had ever tried tobacco, had been refused the sale of tobacco by a cashier *(Table 19)*. Students in these grades are usually clearly under 16 years of age (grade 6 average 12 years of age, grade 8 average 14 years).

Table 19

Refusal of Tobacco Sales – 'Ever' Users, by Grade *

Grade	Sample Size	Percent
Grade 6	177	36%
Grade 8	369	38%
Grade 10	458	18%
Grade 12	348	7%

* 'Ever' users includes former, occasional and regular users.

5.7.4 Purchase of Tobacco for Others

Almost half of grade 6 (42%) and grade 8 (54%) students surveyed had purchased tobacco for others *(Table 20)*. More regular users (85%) than never users (44%) had bought tobacco for others (p<.003) *(Table 20)*.

Table 20

Purchase of Tobacco for Others, by Grade and Tobacco Use Status

Grade	Sample Size	Percent
Grade 6	737	42%
Grade 8	677	54%
Grade 10	761	63%
Grade 12	596	58%
Regular Users	396	85%
Never Users	1,314	44%

5.7.5 Awareness of Tobacco Restraint Act

Eighty-five percent of the students surveyed were aware that it is illegal for those under 16 years of age to purchase tobacco *(Table 21)*. This was particularly true for regular users, of whom 94% were aware of the law.

Table 21

Knowledge of Tobacco Restraint Act, by Tobacco Use Status

Status	Sample Size	Percent
Total	2771	85%
By Tobacco Use Status		
Never	1314	88%
Former	841	86%
Occasional	115	85%
Regular	396	94%

5.7.6 Support for Raising the Legal Age

Almost half (43%) of the students surveyed were in favour of raising the legal age to 19 *(Table 22)*. Note that only 19% were opposed. Significantly more never users (56%) than regular users (18%) were in favour of raising the legal age to 19 (p<.003).

Table 22

Support for Raising Legal Age, by Tobacco Use Status

Status	Sample Size	In Favour	Against
Overall	2771	43%	19%
Never Used	1314	56%	8%
Former Users	841	45%	17%
Regular Users	396	18%	56%

5.8 Prevention of Tobacco Use

5.8.1 Prevent Initial Tobacco Use

Grade 6 students indicated that the following would have prevented them from starting to use tobacco *(Table 23)*:

- knowledge of the health hazards (34%);
- more difficult to obtain (19%);
- friends' influence not to smoke (23%); and
- increased cost (8%).

Table 23

Preventing Tobacco Use, by Grade and Tobacco Use Status – Ever Users *

Prevention	Grade 6	Grade 12	Regular Users	Former Users
Less Accessible	19%	35%	45%	32%
Knowledge of Health Hazards	34%	16%	11%	22%
Increased Cost	8%	18%	27%	14%
Friends' Influence	23%	22%	30%	21%
Sample Size	177	348	396	841

* Former, occasional and regular tobacco users

Responses by grade 12 students were slightly different, in that the number one response was, "more difficult to obtain" (35%), followed by knowledge of the health hazards (16%) *(Table 23)*.

Almost half (45%) of regular tobacco users suggested that if tobacco products had been more difficult to obtain they would not have started using tobacco *(Table 23)*. This was suggested by more regular, than former tobacco users (p<.003).

5.8.2 Stop Continued Tobacco Use

Students who had ever used tobacco indicated that the following would make them quit using tobacco *(Table 24)*:

- higher prices: 32% of males and 22% of females;
- friends' influence: 21% of males and 25% of females; and
- doctor's advice: 20% of males and 17% of females.

Table 24

Stopping Tobacco Use, by Sex and Grade – Ever Users *

Prevention	Males	Females	Grade 6	Grade 12
Reduce Access	12%	14%	13%	10%
Education	18%	14%	34%	12%
Increase Cost	32%	22%	14%	32%
Friends' Influence	21%	25%	26%	17%
Doctor's Advice	20%	17%	7%	19%
Increase Legal Age	10%	6%	15%	4%
Sample Size	714	638	177	348

* Former, occasional and regular tobacco users

Responses of regular users alone differed in that 37% of them indicated that advice from their doctor would make them quit (Table XIX, Appendix D).

More grade 6 (34%) than grade 12 (12%) students surveyed felt that education about the health hazards of tobacco use would make them quit ($p<.003$) *(Table 24)*. On the other hand, more grade 12 (32%) than grade 6 (14%) students indicated an increase in the price of tobacco would have this effect ($p<.003$).

5.8.3 Desire to Quit

Most (68%) of current tobacco users wanted to quit using tobacco *(Table 25)*, but three-quarters (75%) did not know when they would quit. Most (80%) current tobacco users had tried to quit. Only one-third succeeded, at least temporarily.

Table 25

Desire to Quit – Current Users

Status	Percent
Want to Quit	68%
Don't know when will quit	75%
Tried to Quit	80%
Did quit but relapsed	33%
Sample Size	513

Provincial Legislation

The committee feels that the best way to prevent the use of tobacco by minors is through effective legislation which is enforceable and manageable. Therefore, the Committee recommends that:

1. **Provincial legislation concerned with the sale and use of tobacco be developed and enforced.**

Raising the legal age to purchase or possess tobacco to 19 years of age would dramatically reduce tobacco use among students. Since most people do not start using tobacco after 18 years of age raising the legal age may also mean that teenagers will not start using tobacco as adults. The Committee recommends that provincial legislation include:

A. Raising the legal age to purchase or possess tobacco products and paraphernalia to 19 years of age. Identification similar to that required for the purchase of alcohol should be mandatory.

Tobacco is the leading cause of preventable death, disease and disability in Canada. Because of the effects of tobacco use on health, and because tobacco is addicting, the committee feels that restrictions on the possession of tobacco by minors should be no less than those for alcohol. Therefore, the Committee recommends that provincial legislation include:

B. Making it illegal for minors to possess tobacco products or paraphernalia whether for her/his own use or not.

C. A graduated schedule of fines for possession of tobacco products or paraphernalia by minors.

To help with the enforcement of a ban on the sale of tobacco to minors the Committee recommends that the provincial legislation include:

D. Licensing of all tobacco outlets, with defined eligibility criteria for obtaining a license.

E. A graduated schedule of penalties (fines and loss of license) for any selling or giving of tobacco products or paraphernalia to minors.

The sale of tobacco by vending machines is extremely difficult to control. Therefore, the Committee recommends that provincial legislation include:

F. A total ban on vending machines which sell tobacco.

The younger age groups usually buy the 15 size cigarette packages ('Kiddie Packs'). 'Kiddie Packs' are more affordable and more convenient for these age groups. To eliminate cigarette sales to these younger age groups the Committee recommends that provincial legislation include:

G. Prohibiting the sale of cigarette packages with fewer than 20 cigarettes.

Pharmacies were the second most common place for students to purchase tobacco. Since pharmacies sell health care products the committee feels that it is inappropriate for them to sell tobacco. Therefore, the committee recommends that provincial legislation include:

H. Making it illegal for establishments which are licensed as pharmacies to sell tobacco.

Youth are very price sensitive, i.e. as price increases consumption decreases. Therefore, the committee recommends that provincial legislation include:

I. **Levying of annual substantial increases in taxes, no less than cost of living increases, on tobacco products.**

Tobacco use on school property is unacceptable. The committee recommends that provincial legislation include:

J. **Prohibiting the use or possession of tobacco products or paraphernalia on school property (buildings and grounds).**

K. **A graduated schedule of penalties for non-compliance with the banning of tobacco products or paraphernalia on school property.**

The younger age groups felt that more knowledge about the effects of tobacco use on health would have prevented initial use and discouraged continued use. Therefore, the committee recommends that provincial legislation include:

L. **A requirement that education about the effects of tobacco use on health be a compulsory component of the elementary school health education curriculum, beginning with the primary grades.**

Federal Legislation

The Tobacco Restraint Act of 1908 prohibits the selling or giving of tobacco to anyone under the age of 16 for their own use. It also prohibits the selling or giving of cigarettes to anyone under the age of 16 whether for his/her own use or not. The data from this survey confirm that this Act has not been enforced. Therefore, the committee recommends that:

2. **The Tobacco Restraint Act of 1908 be enforced until it can be replaced by comprehensive and enforceable legislation outlining national standards.**

Education and Resources

It was beyond the scope of the Committee to investigate the role of peer educators in preventing tobacco use by minors. However, it is apparent that influence of friends plays a major role in initial and continued use of tobacco. Therefore, the Committee recommends that:

3. **The Nova Scotia Council on Smoking and Health investigate the role of peer educators in preventing tobacco use by minors.**

A high percentage of tobacco users indicated that they wanted to quit using tobacco and a high percentage indicated that they felt addicted to tobacco. Given the expertise of the Nova Scotia Commission on Drug Dependency in treating addictions the Committee recommends that:

4. **The Nova Scotia Commission on Drug Dependency offer programs, materials and/or resources to students/ teenagers who need help to quit using tobacco.**

A number of students indicated that they use tobacco to keep them calm and/or to control weight. Students need to know how to effectively modify their lifestyles. Therefore, the Committee recommends that:

5. **Resources on healthy modification of lifestyles be made available through the Commission on Drug Dependency or other sources to teenagers.**

A number of regular users indicated that doctor's advice would make them quit using tobacco. As well, students felt that doctors should teach them about the effects of tobacco use on health. This type of information need not be limited to physicians. Therefore, the Committee recommends that:

6. **Physicians and other health professionals play an active role in education about the effects of using tobacco, and tobacco use prevention and cessation.**

The Committee realizes that people need to be informed about the facts when it comes to tobacco use by youth (such as prevalence rates, current laws regarding the selling of tobacco to youth, adult role models) so that they may help prevent tobacco use by youth. Therefore, the committee recommends that:

7. **Awareness and information campaigns be undertaken informing the public of the facts and what they can do to prevent tobacco use.**

In order to ensure that any existing or new legislation is effective the Committee recommends that:

8. **A mechanism be put into place to monitor compliance with all relevant legislation.**

The Committee feels that these recommendations need to be carried out at many levels simultaneously. It will take time for the recommendations to work their way through the system. To help in determining if there is any impact on tobacco use by youth as a result of the recommendations which are implemented the committee recommends that:

9. **The Nova Scotia Council on Smoking and Health repeat this survey in five years using the same survey methodology.**

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Prepared by:

Ms. Anna Freeman, RN, BN,
Respiratory Clinical Nurse Specialist,
Victoria General Hospital

Ms. Terry Mills, MA,
Program Evaluation Analyst,
Nova Scotia Department of
Health and Fitness

Ms. Judy Purcell, BA,
Assistant Education Coordinator,
Canadian Cancer Society

Dr. Mark Taylor, MD, FRCSC,
Lecturer, Dalhousie University